

## REMARKS/ARGUMENTS

Claims 1-23 are pending in the application. The Applicant hereby requests further examination and reconsideration of the application in view of these remarks.

### IDS

The Applicant filed an IDS on 9/24/2007 containing references designated HA-HM. The Applicant notes that it does not appear that the Examiner has officially considered those references. The Applicant respectfully requests that the Examiner indicate official consideration of those references by initialing the references listed in the corresponding PTO-1449 form.

### Prior-Art Rejections

On pages 2-7, the Examiner rejected claims 1-23 under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 7,308,198 B1 to Chudak et al. ("Chudak"). Applicant respectfully notes that the Chudak patent is dated December 11, 2007 and, thus, cannot be a proper 102(b) reference for the present application, which was filed on September 26, 2003. For this reason the Applicant respectfully submits that the 102(b) rejection based on Chudak should be withdrawn. Furthermore, for the following reasons, the Applicant submits that all of the pending claims are allowable over Chudak.

### Claims 1 and 17

In rejecting claim 1, the Examiner argued that Chudak discloses all of the claimed features of claim 1, including the step of representing information in a network data structure, "wherein the network data structure comprises, for each link in the network and each node or other link in the network, a representation of a minimum amount of protection bandwidth required to be reserved on said each link to restore service upon failure of said node or other link." The Examiner cited the Abstract, Fig. 5C, and column 5, lines 15-25 and 39-57, of Chudak as specifically teaching this step.

The cited sections discuss certain features of some kinds of mesh networks. While Chudak might teach a representation of the topology of a telecommunication network, that representation is in the form of a graph. See, e.g., Chudak Abstract and Chudak at col. 5, lines 16-17. Chudak does not teach the claimed network data structure. In fact, neither the word "data" nor the word "structure" appears anywhere in Chudak, let alone the term "data structure."

Furthermore, Chudak does not teach a data structure of the form recited in claim 1, as quoted above. Thus, it cannot be said that Chudak teaches this requisite feature of claim 1.

According to the Examiner, Chudak also discloses the step of “determining, using the network and service data structures, whether the new service requires additional protection bandwidth to be reserved on any link in the network.” The Examiner cited col. 23, lines 35-40, as specifically teaching this feature. However, notwithstanding the Examiner’s assertion, the cited section discusses “dedicated protection” and says nothing about using network and service data structures to determine whether a new service requires additional protection bandwidth. Thus, it cannot be said that Chudak teaches this requisite feature of claim 1.

Therefore, the Applicant submits that claim 1 is allowable over Chudak. For similar reasons, the Applicant submits that claim 17 is also allowable over Chudak. Since claims 2-16 and 21-23 depend variously from claim 1, and claims 18-20 depend variously from claim 17, it is further submitted that those claims are also allowable over Chudak.

#### Claim 4

In rejecting claim 4, the Examiner argued that Chudak discloses all of the claimed features of claim 4, including that “the network data structure is distributed over the network such that at least one node in the network does not have all of the information in the network data structure.” The Examiner cited col. 6, lines 9-29, of Chudak as specifically teaching this feature. However, notwithstanding the Examiner’s assertion, the cited section, while describing terms such as “walk,” “subwalk,” “path,” “trail,” and “subtrail,” says nothing about any network-data-structure information that nodes might or might not have.

Thus, it cannot be said that Chudak teaches all the requisite elements of claim 4. Therefore, the Applicant submits that this provides further grounds for the allowability of claim 4 over Chudak.

#### Claim 5

In rejecting claim 5, the Examiner argued that Chudak discloses all of the claimed features of claim 5, including that “each of the nodes in the network has all of the information in the network data structure.” The Examiner cited col. 6, lines 9-29, of Chudak as specifically teaching this feature. However, notwithstanding the Examiner’s assertion, the cited section, while describing terms such as “walk,” “subwalk,” “path,” “trail,” and “subtrail,” says nothing about any network-data-structure information that nodes might maintain.

Thus, it cannot be said that Chudak teaches all the requisite elements of claim 5. Therefore, the Applicant submits that this provides further grounds for the allowability of claim 5 over Chudak.

Claim 6

In rejecting claim 6, the Examiner argued that Chudak discloses all of the claimed features of claim 6, including “in response to the new service request, determining a restoration path for the new service in the network using the network data structure.” The Examiner cited col. 4, lines 15-16, col. 5, lines 54-57, and col. 26, lines 40-46, of Chudak as specifically teaching this feature. However, the cited sections do not teach determining a restoration path using the claimed network data structure. Since, as noted above, Chudak does not teach the claimed network data structure, it cannot be said that Chudak teaches using the claimed network data structure in determining a restoration path.

Thus, it cannot be said that Chudak teaches all the requisite elements of claim 6. Therefore, the Applicant submits that this provides further grounds for the allowability of claim 6 over Chudak.

Claim 7

In rejecting claim 7, the Examiner argued that Chudak teaches a network data structure that “is an array of vectors, wherein . . . each vector in the array corresponds to a different link in the network” and “each vector in the array has a plurality of entries corresponding to the nodes and links in the network.” The Examiner cited col. 15, lines 34-41, and col. 18, lines 49-54, of Chudak as specifically teaching this feature. However, the cited sections do not teach the requisite network data structure.

Rather, the cited sections of Chudak mention “the empty set” and a “cross-connection table.” There is no indication there that either is an array of vectors where each vector “has a plurality of entries corresponding to the nodes and links in the network,” as required by claim 7. Thus, it cannot be said that Chudak teaches this requisite element of claim 7.

According to the Examiner, Chudak also discloses “a first vector corresponding to a first link,” wherein “each entry in the first vector corresponding to a node or other link identifies the minimum amount of protection bandwidth required to be reserved on the first link to restore service upon failure of the node or other link.” The Examiner cited col. 5, lines 39-54, of

Chudak as specifically teaching this feature. However, the cited section does not teach the requisite first vector.

Instead, the cited section of Chudak discusses the application of pre-cross-connection in a mesh network (Chudak, col. 5, lines 39-40). There is no teaching there of a first vector corresponding to a first link, wherein each entry in the vector (i) corresponds to a node or other link in the network and (ii) identifies the minimum amount of protection bandwidth required to be reserved on the first link to restore service upon failure of the entry-corresponding node or other link. In fact, no part of Chudak teaches such a vector. Thus, it cannot be said that Chudak teaches this requisite element of claim 7.

According to the Examiner, Chudak also discloses a service data structure that “is a primary path vector having a plurality of entries corresponding to the nodes and links in the network, wherein . . . each entry of the primary path vector identifies whether the corresponding node or link is part of the primary path for the new service.” The Examiner cited col. 26, lines 9-32, and col. 18, lines 49-54, of Chudak as specifically teaching this feature. However, the cited sections do not teach the requisite primary path vector.

Instead, the cited sections mention a cross-connection table and vectors which represent demands. Specifically, Chudak discloses that “each demand is associated [with] the following vector: [sharing type, level of service, capacity, inter-/intra-mesh]” (Chudak, col. 26, lines 9-11). This Chudak vector bears no resemblance to the claimed primary path vector, which has a plurality of entries corresponding to the nodes and links in the network, wherein each entry identifies whether the corresponding node or link is part of the primary path for the new service. Thus, it cannot be said that Chudak teaches this requisite element of claim 7.

Therefore, the Applicant submits that this provides further grounds for the allowability of claim 7 over Chudak. For similar reasons, it is further submitted that this provides further grounds for the allowability of claims 21-23 over Chudak. Since claims 8-10 depend variously from claim 7, it is further submitted that this also provides further grounds for the allowability of those claims over Chudak.

#### Claim 8

In rejecting claim 8, the Examiner argued that Chudak teaches (i) applying a vector addition operation between a primary path vector for a new service and a vector corresponding to a link to generate a result vector and (ii) “comparing the maximum value in the result vector with

the bandwidth already reserved on the link . . . to determine whether any additional protection bandwidth is required for the new service.” The Examiner cited col. 15, lines 29-51, and col. 17, lines 60-67, of Chudak as specifically teaching this feature. The cited sections do not, however, teach these features.

Instead, the cited sections disclose adding edges to a list of edges and adding the length of an edge to a path length. There is no teaching there of vector addition or comparison of a maximum vector value to a bandwidth value, let alone the requisite elements of claim 8. Thus, it cannot be said that Chudak teaches all the requisite elements of claim 8.

Therefore, the Applicant submits that this provides further grounds for the allowability of claim 8 over Chudak. Since claims 9-10 depend from claim 8, it is further submitted that this also provides further grounds for the allowability of those claims Chudak.

#### Claim 12

In rejecting claim 12, the Examiner argued that Chudak teaches “wherein an incremental version of the network data structure is used to reduce the amount of data that is transmitted in the network to disseminate the information.” The Examiner cited col. 27, lines 40-46, of Chudak as specifically teaching this feature. The Applicant submits that the cited section does not teach the requisite elements of claim 12.

First, the Applicant respectfully notes that the Examiner misquoted claim 12, which recites “a compact version” and “the amount of data that needs to be transmitted . . . to disseminate the information about each link.”

Furthermore, neither the cited section, nor any other section of Chudak, even mentions the terms “compact” or “incremental,” let alone compact or incremental network data structures. Thus, it cannot be said that Chudak teaches this requisite element of claim 12.

Therefore, the Applicant submits that this provides further grounds for the allowability of claim 12 over Chudak. Since claims 13-15 depend from claim 12, it is further submitted that this also provides further grounds for the allowability of those claims Chudak.

#### Claim 16

In rejecting claim 16, the Examiner argued that Chudak teaches “wherein a compact version of the network data structure is used to reduce the amount of data that needs to be transmitted in the network to disseminate the information about each link.” The Examiner cited

col. 12, lines 23-40, of Chudak as specifically teaching this feature. The Applicant submits that the cited section does not teach the requisite elements of claim 16.

First, the Applicant respectfully notes that the above does not accurately reflect claim 16, which recites “an incremental version” and “the amount of data that is transmitted in the network to disseminate the information.”

Furthermore, neither the cited section, nor any other section of Chudak, even mentions the terms “compact” or “incremental,” let alone compact or incremental network data structures. Thus, it cannot be said that Chudak teaches this requisite element of claim 16.

Therefore, the Applicant submits that this provides further grounds for the allowability of claim 16 over Chudak.

#### Claim 20

In rejecting claim 20, the Examiner argued that Chudak teaches “wherein a compact version of the network data structure is used to reduce the amount of data that needs to be transmitted in the network to disseminate the information about each link.” The Examiner cited col. 27, lines 40-46, of Chudak as specifically teaching this feature. The Applicant submits that the cited section does not teach this requisite element of claim 20.

Neither the cited section, nor any other section of Chudak, even mentions the terms “compact,” let alone a compact network data structure. Thus, it cannot be said that Chudak teaches this requisite element of claim 20.

Therefore, the Applicant submits that this provides further grounds for the allowability of claim 20 over Chudak.

#### Fees

During the pendency of this application, the Commissioner for Patents is hereby authorized to charge payment of any filing fees for presentation of extra claims under 37 CFR 1.16 and any patent application processing fees under 37 CFR 1.17 or credit any overpayment to Mendelsohn & Associates, P.C. Deposit Account No. 50-0782.

The Commissioner for Patents is hereby authorized to treat any concurrent or future reply, requiring a petition for extension of time under 37 CFR § 1.136 for its timely submission, as incorporating a petition for extension of time for the appropriate length of time if not submitted with the reply.

In view of the above amendments and remarks, the Applicant believes that the now-pending claims are in condition for allowance. Therefore, the Applicant believes that the entire application is now in condition for allowance, and early and favorable action is respectfully solicited.

Respectfully submitted,

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